CLAIM SUMMARY DOCUMENT:

Claim 1 (Amended) ~~A gene~~ An isolated polynucleotide encoding a protein that has the amino acid sequence as set forth in SEQ ID NO: 2~~, that is involved in differentiation, and that has a homeodomain-like sequence~~.

Claim 2 (Amended) ~~A gene~~ An isolated polynucleotide encoding a protein that has an amino acid sequence modified by the addition or deletion of one or a plurality of amino acids and/or replacement with other amino acids in the amino acid sequence as set forth in SEQ ID NO: 2, said sequence having at least 20% amino acid identity to SEQ ID NO: 2, ~~that is involved~~ wherein said protein participates in differentiation, wherein said differentiation is selected from the group consisting of formation of adventitious shoot and branching, and ~~that~~ wherein said protein has a homeodomain-like sequence.

Claim 3 (Amended) ~~A gene~~ An isolated polynucleotide that hybridizes to the nucleic acid having the nucleotide sequence as set forth in SEQ ID No: 1 or a portion thereof under a stringent condition, and that encodes a protein, ~~that~~ wherein said protein is involved in differentiation, wherein said differentiation is selected from the group consisting of formation of adventitious shoot and branching, and ~~that~~ wherein said protein has a homeodomain-like sequence, further wherein the amino acid sequence of said protein has at least 20% amino acid identity to SEQ ID NO: 2.

Claims 4-6 (Currently canceled)

Claim 7 (Amended) The ~~gene~~ polynucleotide according to claim 1 wherein said protein ~~is a protein having an ability of inducing~~ induces adventitious shoots.

Claim 8 (Amended) The ~~gene~~ polynucleotide according to claim 1 wherein said protein ~~is a protein having an ability of inducing~~ induces branching.

Claim 9 (Amended) A vector comprising the ~~gene~~ polynucleotide according to claim 1.

Claim 10 (Original) A host transformed with the vector according to claim 9.

Claim 11 (Currently canceled)

Claim 12 (Amended) A method for producing a protein that ~~is involved~~ participates in differentiation, wherein said differentiation is selected from the group consisting of formation of adventitious shoot and branching [and that has a homeodomain-like sequence], said method comprising culturing or growing the host according to claim 10 and then harvesting said protein from said host.

Claim 13 (Amended) The method for producing a protein according to claim 12, wherein said protein ~~has an ability of inducing~~ induces adventitious shoots.

Claim 14 (Original) The method for producing a protein according to claim 12, wherein said protein has an ability of inducing branching.

Claim 15 (Amended) A plant or a plant cell into which the ~~gene~~ polynucleotide according to claim 1 has been introduced.

Claim 16 (Amended) A method for inducing differentiation ~~from~~ in a plant or a plant cell, wherein said differentiation is selected from the group consisting of formation of adventitious shoot and branching, said method comprising introducing the ~~gene~~ polynucleotide according to claim 1 into a plant or a plant cell and then ~~driving the expression of~~ transcribing said ~~gene~~ polynucleotide, wherein the expression of said polynucleotide induces differentiation in a plant or plant cell.

Claim 17 (Amended) A method for inducing adventitious shoot formation ~~from~~ in a plant, ~~or a plant cell~~ said method comprising introducing the ~~gene~~ polynucleotide according to claim 1 into a plant ~~or a plant cell~~ and then ~~driving the expression of~~ transcribing said ~~gene~~ polynucleotide, wherein the expression of said polynucleotide induces adventitious shoot formation in a plant.

Claim 18 (Amended) A method for inducing branching of a plant, said method comprising introducing the ~~gene~~ polynucleotide according to claim 1 into a plant and then ~~driving the expression of~~ transcribing said ~~gene~~ polynucleotide, wherein the expression of said polynucleotide induces branching in a plant.

Claim 19 (Amended) The ~~gene~~ polynucleotide according to claim 2 wherein said protein ~~is a protein having an ability of inducing~~ induces adventitious shoots.

Claim 20 (Amended) The ~~gene~~ polynucleotide according to claim 2 wherein said protein ~~is a protein having an ability of inducing~~ induces branching.

Claim 21 (Amended) A vector comprising the ~~gene~~ polynucleotide according to claim 2.

Claim 22 (Previously added) A host transformed with the vector according to claim 21.

Claim 23 (Currently canceled)

Claim 24 (Amended) A plant or a plant cell into which the ~~gene~~ polynucleotide according to claim 2 has been introduced.

Claim 25 (Amended) A method for inducing differentiation ~~from~~ in a plant or a plant cell, wherein said differentiation is selected from the group consisting of formation of adventitious shoot and branching, said method comprising introducing the ~~gene~~ polynucleotide according to claim 2 into a plant or a plant cell and then ~~driving the expression of~~ transcribing said ~~gene~~ polynucleotide, wherein the expression of said polynucleotide induces differentiation in a plant or plant cell.

Claim 26 (Amended) A method for inducing adventitious shoot formation ~~from~~ in a plant, ~~or a plant cell~~ said method comprising introducing the ~~gene~~ polynucleotide according to claim 2 into a plant ~~or a plant cell~~ and then ~~driving the expression of~~ transcribing said ~~gene~~ polynucleotide, wherein the expression of said polynucleotide induces adventitious shoot formation in a plant.

Claim 27 (Amended) A method for inducing branching of a plant, said method comprising introducing the ~~gene~~ polynucleotide according to claim 2 into a plant and then ~~driving the expression of~~ transcribing said ~~gene~~ polynucleotide, wherein the expression of said polynucleotide induces branching in a plant.

Claim 28 (New) The polynucleotide of claim 2, wherein the number of amino acids of SEQ ID NO: 2 that have been modified are 50 or less.

Claim 29 (New) The polynucleotide of claim 28, wherein the number of amino acids of SEQ ID NO: 2 that have been modified are 25 or less.

Claim 30 (New) The polynucleotide of claim 29, wherein the number of amino acids of SEQ ID NO: 2 that have been modified are 10 or less.

Claim 31 (New) The polynucleotide of claim 3, wherein the polynucleotide which hybridizes to the nucleotide sequence of SEQ ID NO: 1 has a length of 75% or greater of the entire sequence of SEQ ID NO: 1 and includes a part or all of the homeodomain sequence.

Claim 32 (New) The polynucleotide of claim 3, wherein the polynucleotide has a homology of 50% or greater with the nucleotide sequence of SEQ ID NO: 1.

Claim 33 (New) The polynucleotide of claim 3, wherein the polynucleotide has a homology of 70% or greater with the nucleotide sequence of SEQ ID NO: 1.

Claim 34 (New) The polynucleotide of claim 3, wherein the polynucleotide has a homology of 90% or greater with the nucleotide sequence of SEQ ID NO: 1.